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Smart Placement Management System with Intelligent Career Support

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Abstract **- The Smart Placement Management System with Intelligent Career Support is specially designed to make campus placement activities more efficient. The pairing of students with appropriate job profiles becomes a tedious manual task in many institutions, resulting in the alteration of proper records of student information. At students, they do not have any information about which skills are needed for the various job opportunities and therefore do not have a high placement success rate.**

This system acts as a central platform where, students can create profiles and upload resumes, and find jobs based on their skills And academic performance. The system analyzes student data to predict what job roles would suit them whilst identifying gaps in their skills that need improvement. Employees can post job requirements and get a list of eligible candidates ranked according to their qualifications. The placement officer can track placement activities and performance through a dashboard.

This proposed system will help reduce the work, time as well as man power in validating recruiters, thereby making it easier to select suitable candidates. This means that it is built using web technologies and a database system to be able to give the user interaction with efficient data handling.

Keywords - Placement Management, Career Support, Skill Gap Analysis, Job Prediction, Web Application.

I. INTRODUCTION

Campus Placement is a significant part of student life on academia; because it assists students with job placements post completion of their graduation. The most common placement process that many institutions still adopt is manual-oriented and inefficient out there. Companies use AI to sort and select applicants based on resumes, even though students apply for jobs they may or may not be qualified for.

The Smart Placement Management System with Intelligent Career Support is here to address all such challenges. The system we are building is an automated platform that connects students, recruiters and placement officer. Students can either create their profiles by inserting academic details, skills, and resumes. The system reads this data and accordingly recommends appropriate roles.

It also assesses skill gaps, proposing adjustments for greater student job-readiness. Recruiters can publish their required jobs and will see the list of candidates available matching to their open job which is system generated. Dashboard would help placement officer to monitor the whole process and then evaluate the statistics of placement.

The ultimate goal of this system is to make the placement process easier and more efficient, allowing for greater accuracy in choosing candidates for jobs, as well as providing students with career guidance. This system helps the institutions improve their placement success and saves them a lot of manual effort.

II. METHODOLOGY

The Smart Placement Management System With Intellect Career Guidance is a web-based application that streamlines the placement process and offers career support to students. The proposed system consists of three primary modules Student Module, Recruiter Module, Placement Officer Module. It takes various details about a student's academic background, relevant skills, resume information, etc. and aligns them with job specifications shared by recruiters.

System methodology: Data collection → Profile analysis → Job matching → Result generation The digram of system

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architecture consists of [User Interface, Application Server, and Database] The user accesses it from the web interface, application server processes, and databases.

A. System Architecture

The system architecture consists of three layers:

- Presentation Layer (User Interface)
- Application Layer (Processing Layer)
- Database Layer (Data Storage Layer)

The presentation layer is built using HTML, CSS, and JavaScript to provide the user interface for students, recruiters, and placement officers. The application layer processes user requests for job matching and skill analysis and generates matches between students and companies. The database layer stores all student profiles, all recruiter details, all job postings, and all placement records in a MySQL database.

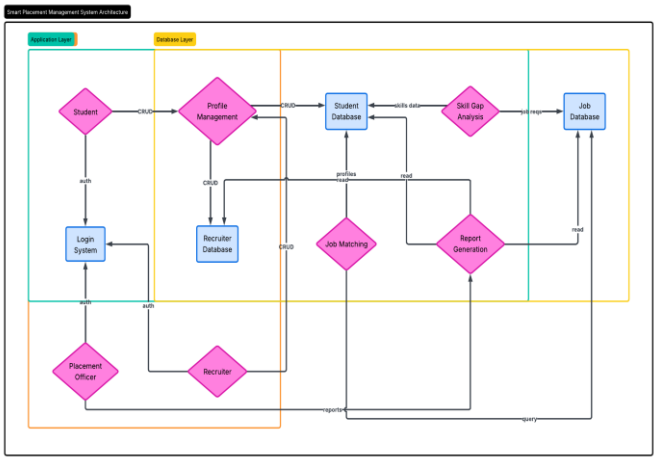

Fig. 1. System Architecture Diagram

B. Use Case Diagram

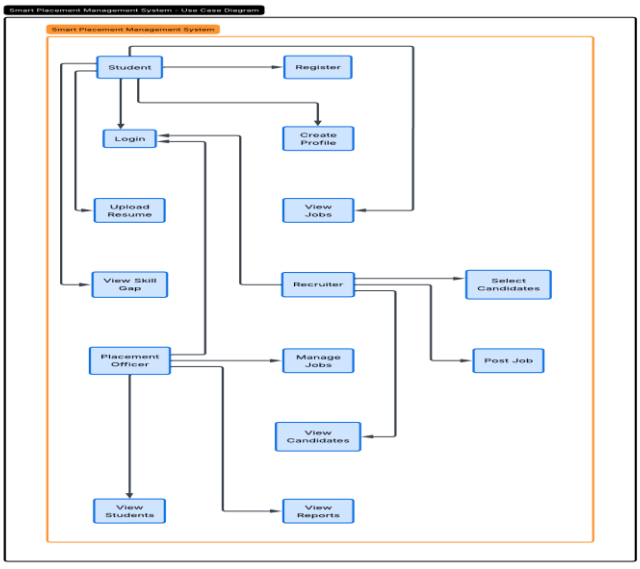

Fig. 2. Use Case Diagram

C. Recruiter Module

Companies can register and login to the system through Recruiter Module. Job seekers can post their credentials (e.g., things like job role, required skills, minimum percentage, job location). The system checks job condition and compare it to students in the database. The recruiter sees a list of qualified candidates and chooses students to recruit.

D. The Placement Officer Module

A Placement Officer Module is used for the entire placement process for students, companies, and job postings. The placement officer has access to student information, as well as information about recruiters and job postings through a dashboard containing placement statistics (i.e., total number of students placed, total number of companies visited, etc.), and placement percentage. The placement officer will also be able to generate placement reports.

E. Student Module

Students can register and login into the system Once signed up, students can fill their profile by providing academic details, technical skills, and any personal info. Students can also submit their resumes on this platform. The student profile is analyzes by the system and it suggests appropriate job roles based on students skills and their academic performance. Identify gaps in readiness and suggest improvements to increase the chances of placement.

F. Job Matching Process

The job matching process is based on matching student skill with the skill required by the company. The job matching will look for both the skill(s) and the academic performance of the student and then generate a list of eligible candidates. Candidates will be ranked according to their academic performance and skills.

G. Data Flow Diagram

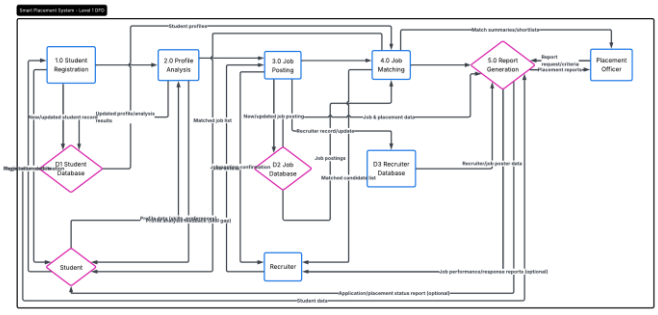

Fig. 3. Data Flow Diagram

III. IMPLEMENTATIONP

The Smart Placement Management System with Intelligent Career Support is a web-based application that incorporates

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advanced technologies. This system is intended to serve as an efficient platform for students, recruiters, and placement officers to manage all placement activities.

A. Software Requirements:

To develop the Smart Placement Management System, the following software will be required:

- Operating System: Windows 10 or later
- Frontend Technologies: HTML, CSS, and JavaScript
- Backend Technologies: Python, Java, or PHP
- Database: MySQL
- Web Browser: Chrome or Edge
- Development Tools: VS Code, Eclipse, or PyCharm

B. Hardware Requirements:

To run the Smart Placement Management System, the following hardware will be needed:

- Processor: Intel i3 or equivalent
- RAM: 4GB or more
- Hard Drive: 500GB or more
- Internet Connection: Required to access the web

C. Tools and Technologies:

The Smart Placement Management System uses various tools and technologies to develop and implement the system. The frontend utilizes the following languages: HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), and JavaScript. The backend utilizes either a server-side programming language such as Python, Java, or PHP. MySQL is the database being used to store and manage data on students, recruiters, and jobs.

D. Database Design

Database design has been given below in Figure 4 in the form of an Entity Relationship (ER) diagram. A complete list of the database data structure and the relationships between the various database entities such as Student, Recruiter, Job, Application, and Placement Officer can be found below.

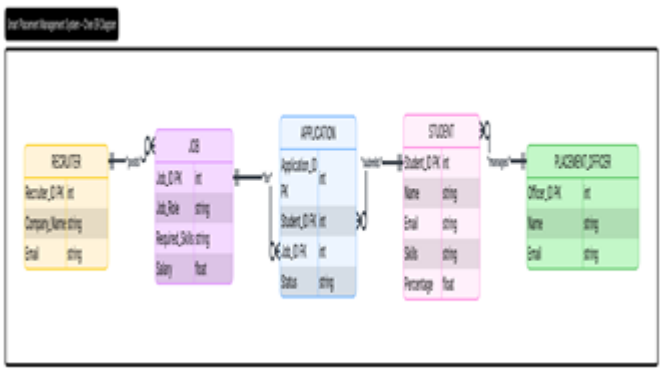

Fig. 4. ER Diagram

E. Implementation Process

There are many phases to the overall implementation process, including system design; database creation; front-end development; back-end integration; and testing. First, the overall database is created in MySQL for storing all appropriate data; second, the front-end interface is designed and developed, allowing interactions with the system by the user; third, the back-end processing logic is implemented through programming/scripting to process all actions taken by the user, match the various jobs to the students, and store, retrieve, and manipulate data throughout the system; finally, the system is tested to ensure both proper operation and appropriate performance after completion of the previous steps.

IV. RESULTS

A Smart Placement Management System (SPMS) with Intelligent Career Support (ICS) has been tested and successfully implemented. SPMS includes an interface between students, recruiters, and placement officers to create an environment for the efficient management of placement-related activity. Students create a profile, upload a resume, search for jobs that fit their profiles, update their profile as they progress through their academic program and log into the system to view the jobs that match their skills.

Recruiters can post their requirements and find candidates who are qualified to apply based on their skill set. Placement officers can see all of the student's progress throughout their academic career using the placement officer's dashboard to monitor activities related to placements and view the statistics for students placed.

The matching system uses skills, academic performance, and job requirements for matching. The test results showed that the Smart Placement Management System with Intelligent Career Support reduces manual activity by allowing for quick identification of qualified candidates, and helps students identify skill gaps so that they may focus on developing the skills necessary to increase their chances of being placed in a job profile they want.

Fig. 5. Register and Login Page

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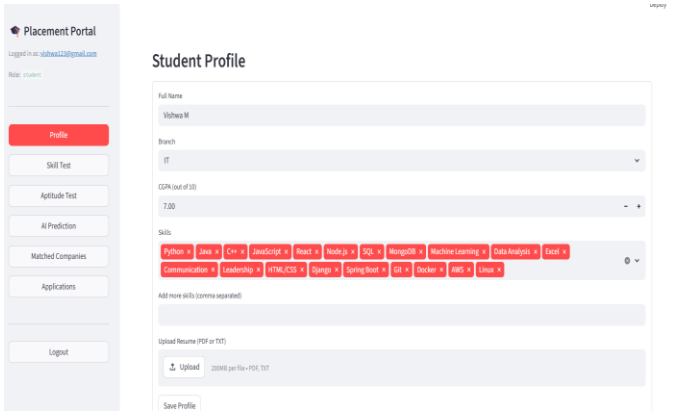

Fig. 6. Student Dashboard

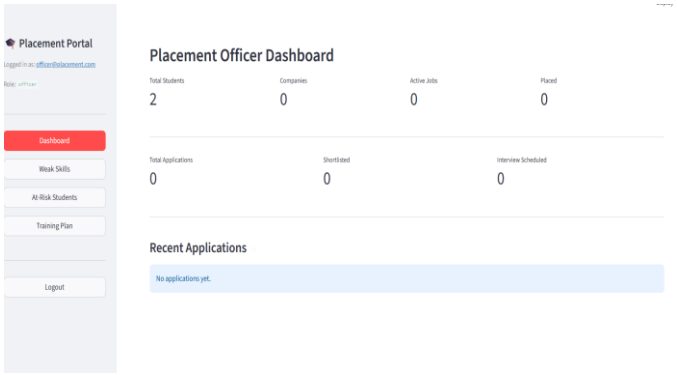

Fig. 7. Placement Officer Dashboard

V. CONCLUSION

The Smart Placement Management System with Intelligent Career Support has been designed to speed-up and streamline the placement procedure for schools and colleges by automating the recruiting process, allowing students to easily obtain job offers based on their abilities and accomplishments, as well as assisting recruiters in identifying qualified candidates and placement officers in managing placement tasks more effectively.

In addition to reducing manual labour, saving time, and improving the efficiency of the placement process through automation and advanced matching of job seekers with job openings, future improvements will be made by incorporating machine learning techniques to enhance the accuracy of job predictions, and implementing testing and interviewing modules in the online component of the workstation. A mobile application will also be created to make using the system easier for users.

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